

Winter woods abuzz with mosquito commandos

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YARMOUTHPORT - Mosquitoes are never far from Gabrielle Sakolsky's thoughts, even

when temperatures dip.

As staff entomologist with the Cape Cod Mosquito Control Project, Sakolsky spends her winter coordinating the flip side of the agency's well-documented summer battle against the pesky insects and their potentially deadly bites.

"It's managing the population, though you're never going to get rid of them," she said of her cold-weather battle.



■ Crew chief Tom Eldridge, above, uses a brush saw to clear access trails in Dennis.
(Kevin Mingora/Cape Cod Times)

Last year, local and state health officials were busy monitoring

cases of Eastern equine encephalitis and West Nile virus in Cape mosquitoes and birds, and educating the public about mosquito breeding and biting habits.

And although this winter's higher-than-average temperatures do not necessarily mean more of the same for 2007, the need for mosquito population control is constant.

"You can't really predict what will happen

next year with Eastern equine encephalitis," Sakolsky said. "It's more dependent upon things like how much rain we get in the spring and how much habitat the mosquitoes have."

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 [Local mosquito-control](#)

To control that habitat, the Cape Cod Mosquito Control Project applies larvicide to areas with high mosquito populations and potential pockets of disease from spring to fall.

During the winter, project staff clear paths to access mosquito habitat such as white cedar swamps. They also maintain drainage ditches to eliminate standing water - prime habitat for breeding mosquitoes.



■ Larva of *Culiseta melurna*, a carrier of the EEE virus, found in Dennis.

(Kevin Mingora/Cape Cod Times)

Wanted: Running water

Five and sometimes six days a week, workers pull on boots and dig heavy mud out of portions of the 1,500 miles of drainage ditches that crisscross Cape Cod.

"We want at least 3 inches of running water on top of the silt," said staff member Andy Fletcher of Yarmouthport.

Fletcher, who has worked in the Cape's mosquito-control district for the past four years, spent yesterday clearing drainage ditches around the Ancient Cemetery in Yarmouthport.

"We dig until (the ditch bottom) gets hard," he said. "It may (take) three or four passes."

After the mud is pulled onto the banks of the ditch, it needs to be spread out so it doesn't form large and unsightly frozen clumps that would make it difficult for someone to navigate the area.

The mosquito-control work is exempt from state wetland regulations, and workers do not dig new ditches, Sakolsky said.

"They were all done before the mosquito-control project began its work," she said.

Most of the ditches have existed since the turn of the century, when they were dug to eliminate mosquitoes and draw more tourists to the Cape.

Wary of climate change

Technology such as global positioning systems has made some of the work easier,

Mosquito-control methods

Cape Cod is one of nine mosquito-control districts in the state. The state Reclamation and Mosquito Control Board, part of the state Department of Agricultural Resources, oversees the districts. The state uses eight techniques to fight mosquitoes:

- Surveillance: Monitoring breeding sites for larvae, adult mosquitoes and species types.
- Ditch maintenance: Clearing ditches and drainage systems in wetlands to limit stagnant water that can harbor larvae.
- Open marsh management: Creating or improving pools in salt marshes to create habitats for mosquito-eating fish and birds.
- Biological control: Placing mosquito-eating fish, such as the banded sunfish, in ditches and pools.
- Education: Informing the public about mosquito life cycles and how to limit breeding sites by eliminating standing water.
- Larvicides: Applying a range of products, including bacteria, insect growth regulators, "low-impact" organophosphates and refined oils, to limit larvae populations.

but intense development around the Cape has created new problems. As more land is cleared and built on, much of the drainage that keeps mosquito populations low has been filled in or surrounded.

The potential of climate change can also raise new issues, such as a longer mosquito breeding season. Warm weather can be both a blessing and a curse for the nine, two-person crews that must battle the buzzing bug through rain, snow and sun, Fletcher said.

Armed with gas-powered saws - think bush cutters on steroids - and pitchforks, the crews beat brush and swamp across Barnstable County. In 2005, they cleaned and cleared 200,000 feet of ditches and 384,000 feet of brush, Sakolsky said.

The program's budget - approximately \$1.4 million for the past year - is paid through local taxes and overseen by state agencies.

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(Published: January 12, 2007)

■ Catch basin management: Applying larvacides in catch basins and storm drains, which are favored breeding sites for the Culex species that spreads the West Nile virus.

■ Pesticides: Using truck or aerial spraying when the threat of mosquito-borne disease is high.

Source: Massachusetts Department of Agricultural Resources
